

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims

1. (Currently amended) An HCV vaccine comprising a polynucleotide that encodes the HCV proteins selected from the group consisting of: Core, NS3, NS4B and NS5B, wherein the polynucleotide encodes no other HCV protein.
2. (Previously presented) The HCV vaccine as claimed in claim 1, wherein the polynucleotide encodes a Core protein which is truncated from the carboxy terminal end to reduce the inhibitory effect of Core protein upon the expression of other HCV proteins.
3. (Previously presented) The HCV vaccine as claimed in 3, wherein the truncated Core protein has a deletion of at least the C-terminal 10 amino acids.
4. (Previously presented) The HCV vaccine as claimed in claim 3, wherein the truncated Core protein consists of sequence encoding amino acids 1-151 of the Core protein.
5. (Previously presented) The HCV vaccine as claimed in claim 3, wherein the truncated core protein consists of sequence encoding amino acids 1-165 of the Core protein.
6. (Previously presented) The HCV vaccine as claimed in claim 1, wherein the HCV protein encoding sequence is present in the form of a fusion containing at least one sequence encoding the HCV proteins.
7. (Previously presented) The HCV vaccine as claimed in claim 6, wherein the fusion is a double fusion of the polypeptide sequences NS4B and NS5B.
8. (Previously presented) The HCV vaccine as claimed in claim 6, wherein the fusion is a double fusion of the polypeptide sequences NS3 and Core.
9. (Previously presented) The HCV vaccine as claimed in claim 1, wherein the HCV proteins are encoded by the polynucleotide in at least one expression cassette.

10. (Previously presented) The HCV vaccine as claimed in claim 9, wherein a second expression cassette encoding the Core protein is in a cis location downstream of a first expression cassette which encodes at least one other HCV protein.

11. (Previously presented) The HCV vaccine as claimed in claim 10, wherein the second expression cassette encoding the Core protein is downstream of a first expression cassette that encodes NS5B protein.

12. (Previously presented) The HCV vaccine as claimed in claim 1, wherein at least one of the HCV proteins present are inactivated by mutation.

13. (Previously presented) The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a NS5B protein that comprises a mutation in motif A.

14. (Previously presented) The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a NS3 protein, wherein the NS3 protein protease activity has been abrogated by mutation in at least one catalytic triad amino acid.

15. (Previously presented) The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a NS3 protein, wherein the NS3 protein helicase activity has been abrogated by mutation in at least one helicase motif selected from the group of: motif I, II, III, and IV.

16. (Previously presented) The HCV vaccine as claimed in claim 12, wherein the polynucleotide encodes a truncated NS4B protein without a highly variable N-terminal region.

17-18. (Cancelled)

19. (Currently amended) The HCV vaccine as claimed in claim [[18]]1, wherein the polynucleotide DNA sequence is a plasmid.

20. (Previously presented) The vaccine as claimed in claim 1, wherein the polynucleotide is codon optimised for expression in mammalian cells.

21. (Previously presented) A method of preventing or treating an HCV infection in a mammal comprising administering a vaccine as claimed in claim 1 to a mammal.

22. (Previously presented) A method of vaccinating an individual comprising taking a polynucleotide vaccine as claimed in claim 1, coating the gold beads with the polynucleotide vaccine and delivering the gold beads into the skin.

23. (Cancelled)